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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/688,968

10/21/2003

Sung-Wook Kang

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07/14/2005

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EXAMINER

KUMAR, RAKESH

ART UNIT

PAPER NUMBER

3654

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/688,968

Applicant(s)

KANG, SUNG-WOOK

Examiner

Rakesh Kumar

Art Unit

3654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,8-10,12,13 and 15 is/are rejected.
- 7) ☒ Claim(s) 2,5,7,11,14 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/21/2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. Referring to Claim 4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, as stated in claim 4, "the rubber plate between the pressing plate" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

3. Referring to Claim 3. Claim objected to because of the following informalities: In the claim it is mentioned, a pressing spring between the pressing plate "and the other side" of the outer surface of the link housing. In reference to Figure 3 it is unclear as to what is referred to as being the "other side", its taken to mean the opposite side on which the spring is to be situated. As a suggestion the claim will be more comprehensible if it is stated "between the pressing plate and "one side" of the outer surface of the link housing or simply stating "between the pressing plate and the first link housing of the outer surface of the link housing". Appropriate correction is required.

4. Referring to Claim 4. See claim 3. The location of the rubber plate as being between the pressing plate "and the other side" of the outer surface, in view of Figure 3 is unclear as to exactly which side of the link housing is being considered. As a suggestion the claim will be more comprehensible if it is stated "one side" rather than the other side or simply stating the "first link housing".

5. Referring to Claim 5. See claim explanation on claim 3 and 4. The description locating the abrasion prevention member (167) is unclear. As a suggestion the claim will be more comprehensible if it is stated "one side" rather than the other side or simply stating "in contact with the first link housing".

Art Unit: 3654

6. Referring to Claim 12-14. In regards to positioning the location of the spring and the rubber plate and the abrasion prevention member the term "second outer surface of the link housing" is used. It is unclear as to what is being referred to as a "second outer surface", the second surface of the first link housing on the pickup drive shaft or the outer surface of the second link housing on the pickup roller shaft.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3, 4, 12 and 13 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Referring to Claim 3 and 4. See objection in claim 3 and 4. In the claims it is unclear as to what is being referred to as the "other side", it is understood as to mean the other side (opposite side) on which the spring is situated. In reference to drawing Figure 3, the spring is shown as to be in between the pressing plate (151b) and the abrasion prevention member (167).

9. Referring to Claim 12 and 13. Claims 12 and 13 recite the limitation "the plate" in the last lines of claims 12 and 13. There is insufficient antecedent basis

Art Unit: 3654

for this limitation in the claims. It is unclear if the "the plate" is the same member previously disclosed as the "fixed member" or the "fixed plate".

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claim 1 rejected is under 35 U.S.C. 102(b) as being anticipated by Embry (Patent No. 5,868,385).

12. Referring to Claim 1. Embry teaches of a paper-feeding device that uses a motor (21) (Col. 3 line 24) as the basis to drive media (5) from the media Tray (7). The rotation of the motor (21) is used to rotate a pickup drive shaft (9) (Col. 3 line 25-26 see Figure 5). Embry also discloses a link housing (1) containing a train of gears and is pivotally mounted onto a pickup drive shaft (9) (Col. 2 lines 23-31). The two pickup rollers (3a and 3b) that contact with the media (5) are connected to the link housing (1) as is shown in Figure 1. Embry also discloses a clutch mechanism (Col. 3 line 1-5) shown in Figure 2 as being mounted to the link housing (1) through bracket extension (1a) (Col. 2 line 43) and simultaneously being attached to the drive shaft (9) as to allow the housing (1) a range of movement when the drive shaft (9) is rotated by the motor (21).

Art Unit: 3654

13. Claim 8, 9, and 15 rejected are under 35 U.S.C. 102(b) as being anticipated by Hsieh (Patent No. 6,352,256).

14. Referring to Claim 8. Hsieh teaches of a paper-feeding device that utilizes the bi-directional rotation (104 and 106) of the pickup drive shaft (32) to drive media from the media tray (22) (see Figures 2-5 Col. 3 lines 11 and 38). The pivoting link housing (34) is also driven in the first and the second direction as the pickup drive shaft is rotated in corresponding directions by the accompanying motor (52) (Col. 3 lines 14 and 40). The pickup roller (36) is connected to the link housing (34) (Col. 2 line 60) and is coupled to the pick up drive shaft through interconnected gears (Col. 3 line 6). Hsieh discloses when the pickup drive shaft (32) rotates in the first direction (104) the link housing (34) rotates to make contact with media tray (22) and once the contact is made the link housing (34) is prevented from further rotating and a slip occurs between the link housing and the pickup drive shaft. The rotation of the pickup drive shaft is then delivered to the pickup roller (36) to allow the pickup roller to push sheets from the media tray (Col. 3 line 10-33). When the pickup drive shaft (32) rotates in the second direction (Col. 3 line 36) the link housing (34) is rotated in the second direction and the pickup roller (36) is removed from the surface contact of the media tray. Another predetermined swing limit is also imposed on the link housing (34) to prevent it from swinging completely around the pickup drive shaft (32) (Col. 3 lines 36-49).

Art Unit: 3654

15. Referring to Claim 9. Hsieh discloses a torque limiter (39), which is used to connect the link housing (34) to the pickup drive shaft (32) (see figure Col. 3 lines 21-23). It is understood that a torque limiter device is a clutch.

16. Referring to Claim 15. Hsieh teaches of a paper-feeding device that utilizes the bi-directional rotation (104 and 106) of the pickup drive shaft (32) to drive media from the media tray (22) by using the drive force produced by the rotation of the motor (52) (see Figures 2-5 Col. 3 lines 11 and 38). The pivoting link housing (34) is also driven in the first and the second direction as the pickup drive shaft is rotated in corresponding directions by the accompanying motor (52) (Col. 3 lines 14 and 40). The pickup roller (36) is connected to the link housing (34) (Col. 2 line 60) and is coupled to the pick up drive shaft through interconnected gears (Col. 3 line 6). Hsieh discloses when the pickup drive shaft (32) rotates in the first direction (104) the link housing (34) rotates to make contact with media tray (22) and once the contact is made the link housing (34) is prevented from further rotating and a slip occurs between the link housing and the pickup drive shaft. The rotation of the pickup drive shaft is then delivered to the pickup roller (36) to allow the pickup roller to push sheets from the media tray (Col. 3 line 10-33). When the pickup drive shaft (32) rotates in the second direction (Col. 3 line 36) the link housing (34) is rotated in the second direction and the pickup roller (36) is removed from the surface contact of the media tray. Another predetermined swing limit is also imposed on the link housing (34) to



Art Unit: 3654

prevent it from swinging completely around the pickup drive shaft (32) (Col. 3 lines 36-49).

***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 6 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Embry (Patent No. 5,868,385) in view of Hsieh (Patent No. 6,352,256).

19. Referring to Claim 6 and 10. Embry teaches of a media feeding device using a gear configuration in a pivoting housing link (1) about a pickup drive shaft (9) through a spring clutch mechanism (19, 17 and 15). The teachings also disclose that the spring clutch mechanism could be replaced with a one-way ratchet mechanism or a counterpart without changing the embodiment of the feeding device (Col. 3 line 44-50). Hsieh teaches of using a torque limiter (39) connected to a pickup drive shaft (32) and a link housing (34) to engage the media tray. As described in Hsieh the torque limiter allows the rotation of the link housing to rotate until a predetermined loading point is reached and the torque limiter begins to slip and stops the further rotation of the link housing (Col. 3 line 21-26). It would be obvious to one skilled in the art to combine the teaching of Embry and Hsieh to use a pre-manufactured friction clutch/torque limiter

Art Unit: 3654

mechanism consisting of an inner race attached to the pickup drive shaft and an outer race in contact with the inner race and the link housing to create a moveable arm. As a result the number of components in the gear assembly can be reduced.

### ***Allowable Subject Matter***

20. Claim 2, 5, 7, 11, 14 and 16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

21. Referring to Claim 3 and 4. Claims 3 and 4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh Kumar whose telephone number is (517) 272-8314. The examiner can normally be reached on 8:00AM - 4:30PM.

Art Unit: 3654

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RK

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